WHAT IS CLAIMED IS:

1. A method for a mobile phone, comprising:

(1) determining if said mobile phone is located outside a service range of a preferred communication system based on a first criterion while connecting to said preferred communication system;

(2) connecting to a non-preferred communication system based on the determination in (1);

(3) determining if said mobile phone is located within a service range of said preferred communication system based on a second criterion that is different from said first criterion while connecting to said non-preferred communication system; and

(4) connecting to said preferred communication system based on the determination in (3).

2. The method as claimed in claim 1, wherein said first and second criteria are set so that said connection in (4) does not frequently occur as compared with said connection in (2).

3. The method as claimed in claim 1 wherein said first and second criteria are threshold of received electric field intensity.

4. The method as claimed in claim 3, wherein said threshold of received electric field intensity is determined so that the threshold relating to said determination in (3) is higher than the threshold relating to said determination in (1).

5. The method as claimed in claim 2, wherein said connection in (2) is made if said mobile phone is located outside a service range of said preferred communication system continuously for a predetermined time period.

6. The method as claimed in claim 1, wherein said determination in (3) is made when connection to said non-preferred communication system continues for a predetermined time period.

7. A method for a mobile phone, comprising:

(1) determining if said mobile phone is located outside a service range of a preferred communication system while connecting to said preferred communication system;

(2) connecting to a non-preferred communication system based on the determination in (1);

(3) determining if said mobile phone is located within a service range of said non-preferred communication system while connecting to said non-preferred communication system;

(4) when it is determined in (3) that said mobile phone is located within a service range of said non-preferred communication system, determining if said mobile phone is located within a service range of said preferred communication system based on a first criterion;

(5) connecting to said preferred communication system based on the determination in (4);

(6) when it is determined in (3) that said mobile phone is located outside a service

range of said non-preferred communication system, determining if said mobile phone is located within a service range of said preferred communication system based on a second criterion that is different from said first criterion; and

(7) connecting to said preferred communication system based on the determination in (6).

8. The method as claimed in claim 7, wherein said first and second criteria are set so that said connection in (5) does not frequently occur as compared with said connection in (7).

9. The method as claimed in claim 7, wherein said first and second criteria are thresholds of received electric field intensity.

10. The method as claimed in claim 9, wherein said threshold of received electric field intensity is determined so that said first criterion is higher than the second criterion.

11. The method as claimed in claim 7, wherein said connection in (2) is made if said mobile phone is located outside a service range of said preferred communication system continuously for a predetermined time period.

12. The method of a mobile phone as claimed in claim 7, wherein said determination in (4) and (6) are made when connection to said non-preferred communication system continues for a predetermined time period.

13. A method for a mobile phone, comprising:

(1) determining based on a first criterion if said mobile phone is located outside a service range of a preferred communication system while connecting to said preferred communication system;

(2) determining if a predetermined time period passes;

(3) determining based on a second criterion that is different from said first criterion if said mobile phone is located outside a service range of a preferred communication system within said predetermined time period;

(4) connecting to a non-preferred communication system when said mobile phone is located outside a service range of said preferred communication system continuously for a predetermined time period;

(5) determining if said mobile phone is located within a service range of said preferred communication system while connecting to said non-preferred communication system; and

(6) connecting to said preferred communication system based on the determination in (5).

14. The method as claimed in claim 13 wherein said first and second criteria are threshold of received electric field intensity.

15. The method as claimed in claim 14, wherein said threshold of received electric field intensity is determined so that the threshold relating to said determination in (3) is higher than the threshold relating to said determination in (1).

16. A mobile phone comprising:

first determination means for determining if said mobile phone is located outside a service range of a preferred communication system while connecting to said preferred communication system;

first connection means for connecting to a non-preferred communication system based on the determination of said first determination means;

second determination means for determining if said mobile phone is located within a service range of said preferred communication system while connecting to said non-preferred communication system; and

second connecting means for connecting to said preferred communication system based on the determination of said second determination means,

wherein said first and second determination means use different criterion to determine if said mobile phone is located within a service range of said preferred communication system.

17. The mobile phone as claimed in claim 16, wherein said different criteria are set so

that said connection relating to said second connection means does not frequently occur as compared with said connection relating to said first connection means.

18. The mobile phone as claimed in claim 16, wherein said criteria is a threshold of received electric field intensity.

19. The mobile phone as claimed in claim 18, wherein said threshold of received electric field intensity is determined so that the threshold relating to said second determination means is higher than the threshold relating to said first determination means.

20. The mobile phone as claimed in claim 16, wherein said first connection means connects to said non-preferred communication system if said mobile phone is located outside a service range of said preferred communication system continuously for a predetermined time period.

21. The mobile phone as claimed in claim 16, wherein said second determination

means determines if said mobile phone is located within a service range of said preferred communication system when said mobile phone is connected to said non-preferred communication system, if said connection continues for a predetermined time period.

22. A mobile phone comprising:

first determination means for determining if said mobile phone is located outside a service range of a preferred communication system while connecting to said preferred communication system;

first connection means for connecting to a non-preferred communication system based on the determination of said first determination means;

second determination means for determining if said mobile phone is located within a service range of said non-preferred communication system while connecting to said non-preferred communication system;

third determination means for determining if said mobile phone is located within a service range of said preferred communication system based on a first criterion, if it is determined by said second determination means that said mobile phone is located within a

service range of said non-preferred communication system;

second connection means for connecting to said preferred communication system based on the determination of said third determination means;

fourth determination means for determining if said mobile phone is located within a service range of said preferred communication system based on a second criterion that is different from said first criterion, when it is determined by said second determination means that said mobile phone is located outside a service range of said non-preferred communication system; and

third connection means for connecting to said preferred communication system based on the determination by said fourth determination means.

23. The mobile phone as claimed in claim 22, wherein said first and second criteria are set so that said connection relating to said second connection means does not frequently occur compared with said connection relating to said third connection means.

24. The mobile phone as claimed in claim 22, wherein said criteria is a threshold of

received electric field intensity.

25. The mobile phone as claimed in claim 24, wherein said threshold of received electric field intensity is determined so that the threshold relating to said third determination means is higher than the threshold relating to said fourth determination means.

26. The mobile phone as claimed in claim 22, wherein said first connection means connects to a non-preferred communication system if said mobile phone is located outside a service range of a preferred communication system continuously for a predetermined time period.

27. The mobile phone as claimed in claim 22, wherein said third and fourth determination means determine if said mobile phone is located within a service range of said preferred communication system when said mobile phone is connected to said non-preferred communication system, if said connection continues for a predetermined

time period.

28. A mobile phone comprising:

first determination means for determining based on a first criterion if said mobile phone is located outside a service range of a preferred communication system while connecting to said preferred communication system;

second determination means for determining if a predetermined time period passes;

third determination means for determining based on a second criterion that is different from said first criterion if said mobile phone is located outside a service range of a preferred communication system within said predetermined time period;

first connection means for connecting to a non-preferred communication system when said mobile phone is located outside a service range of said preferred communication system continuously for a predetermined time period;

fourth determination means for determining if said mobile phone is located within a service range of said preferred communication system while connecting to said

non-preferred communication system; and

second connection means for connecting to said preferred communication system based on the determination of said fourth determination means.

29. The mobile phone as claimed in claim 28 wherein said first and second criteria are threshold of received electric field intensity.

30. The mobile phone as claimed in claim 29, wherein said threshold of received electric field intensity is determined so that the threshold relating to said third determination means is higher than the threshold relating to said first determination means.

31. A mobile phone comprising:

first determination circuit for determining if said mobile phone is located outside a service range of a preferred communication system while connecting to said preferred communication system;

first switch for connecting to a non-preferred communication system based on the determination of said first determination circuit;

second determination circuit for determining if said mobile phone is located within a service range of said preferred communication system while connecting to said non-preferred communication system; and

second switch for connecting to said preferred communication system based on the determination of said second determination circuits;

wherein said first and second determination circuits use different criterion to determine if said mobile phone is located within a service range of said preferred communication system.

32. The mobile phone as claimed in claim 31, wherein said different criteria are set so that said connection relating to said second switch does not frequently occur as compared with said connection relating to said first switch.

33. The mobile phone as claimed in claim 31, wherein said criteria is a threshold of received electric field intensity.

34. The mobile phone as claimed in claim 33, wherein said threshold of received electric field intensity is determined so that the threshold relating to said second determination circuit is higher than the threshold relating to said first determination circuit.

35. The mobile phone as claimed in claim 31, wherein said first switch connects to said non-preferred communication system if said mobile phone is located outside a service range of said preferred communication system continuously for a predetermined time period.

36. The mobile phone as claimed in claim 31, wherein said second determination circuit determines if said mobile phone is located within a service range of said preferred communication system when said mobile phone is connected to said non-preferred communication system, if said connection continues for a predetermined time period.

37. A mobile phone comprising:

first determination circuit for determining if said mobile phone is located outside a

service range of a preferred communication system while connecting to said preferred communication system;

first switch for connecting to a non-preferred communication system based on the determination of said first determination circuit;

second determination circuit for determining if said mobile phone is located within a service range of said non-preferred communication system while connecting to said non-preferred communication system;

third determination circuit for determining if said mobile phone is located within a service range of said preferred communication system based on a first criterion, if it is determined by said second determination circuit that said mobile phone is located within a service range of said non-preferred communication system;

second switch for connecting to said preferred communication system based on the determination of said third determination circuit;

fourth determination circuit for determining if said mobile phone is located within a service range of said preferred communication system based on a second criterion that is different from said first criterion, when it is determined by said second determination

circuit that said mobile phone is located outside a service range of said non-preferred communication system; and

third switch for connecting to said preferred communication system based on the determination by said fourth determination circuit.

38. The mobile phone as claimed in claim 37, wherein said first and second criteria are set so that said connection relating to said second connection means does not frequently occur as compared with said connection relating to said third connection circuits.

39. The mobile phone as claimed in claim 37, wherein said criteria is a threshold of received electric field intensity.

40. The mobile phone as claimed in claim 39, wherein said threshold of received electric field intensity is determined so that the threshold relating to said third determination circuit is higher than the threshold relating to said fourth determination circuit.

41. The mobile phone as claimed in claim 37, wherein said first switch connects to a non-preferred communication system if said mobile phone is located outside a service range of a preferred communication system continuously for a predetermined time period.

42. The mobile phone as claimed in claim 37, wherein said third and fourth determination circuits determine if said mobile phone is located within a service range of said preferred communication system when said mobile phone is connecting to said non-preferred communication system continues for a predetermined time period.

43. A mobile phone comprising:

a first determination circuit for determining based on a first criterion if said mobile phone is located outside a service range of a preferred communication system while connecting to said preferred communication system;

a second determination circuit for determining if a predetermined time period passes;

a third determination circuit for determining based on a second criterion that is different from said first criterion if said mobile phone is located outside a service range of a preferred communication system within said predetermined time period;

a first switch for connecting to a non-preferred communication system when said mobile phone is located outside a service range of said preferred communication system continuously for a predetermined time period;

a fourth determination circuit for determining if said mobile phone is located within a service range of said preferred communication system while connecting to said non-preferred communication system; and

a second switch for connecting to said preferred communication system based on the determination of said fourth determination means.

44. The mobile phone as claimed in claim 43 wherein said first and second criteria are threshold of received electric field intensity.

45. The mobile phone as claimed in claim 44, wherein said threshold of received

electric field intensity is determined so that the threshold relating to said third determination circuit is higher than the threshold relating to said first determination circuit.